

**IN THE UNITED STATES PATENT & TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

Group Art Unit: 3726

Examiner: Jermie E. Cozart

Application of :	Stefan Kastner
Serial No. :	10/019,706
Filing Date :	May 1, 2002
Entitled :	METHOD FOR PRODUCING AN ALUMINUM COMPOSITE MATERIAL

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**REPLY BRIEF ON APPEAL**

Sir:

Appellant submits this Reply Brief in connection with the above-identified patent application and in response to the Examiner's Answer mailed April 16, 2009. Appellant submits this Reply Brief to supplement the Brief on Appeal dated December 9, 2008, the arguments of which are maintained in full.

**I. STATUS OF CLAIMS**

Claims 1-17 were presented for examination.

Claims 1-5 have been cancelled.

Claims 6-17 stand rejected.

Claims 6-17 are on appeal.

**II. GROUND OF REJECTION TO BE REVIEWED ON APPEAL**

The ground of rejection on appeal is:

- (1) The final rejection of claims 6-17 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 2,800,709 to Gaul in view of CN 1,105,615 to Hu.

### **III. ARGUMENTS**

#### **Response to statements on page 5 regarding how the Gaul's cladding layer is formed**

On page 5, the Examiner's Answer states that because "Gaul is silent with respect to the manner by which the aluminum cladding layer is produced, the Examiner provided the secondary reference to Hu which teaches a layer of material similar in dimension to the aluminum cladding layer of Gaul being produced by sawing a first ingot in a longitudinal first direction."

In fact, Gaul is not silent.

Gaul describes the cladding as a plate or liner, and at column 4, line 42, Gaul describes the liner as "liner stock." One skilled in the art would recognize that the cladding of Gaul is produced involving a process including hot-rolling. Appellant made this point and addressed the advantages of the claimed method over conventional processes for forming conventional cladding layers, such as that used by Gaul, in the Brief on Appeal Brief on pages 9-10 and at paragraphs 5 and 10 of the specification as filed.

In short, sawing the cladding sheets from the ingot in a longitudinal direction provides a number of advantages, including an excellent plane-parallel arrangement resulting in an optimization in thickness of the cladding sheets, simplification of the process of welding between the cladding sheets and core ingots, and reduction in required surfaced treatments.

Regardless, Gaul is not silent with respect to the manner by which the aluminum cladding layer is produced, and one skilled in the art would not look to Hu to form an

aluminum cladding layer, in particular, because it discloses cogging steel ingot and because it teaches away from producing an aluminum cladding layer, as taught by Gaul.

**Response to statements on page 5 regarding the dimensions of the cladding layer**

The Examiner's Answer states that "Hu appears to have dimensions capable of use as a cladding layer" and "[t]he teachings of Hu are clearly capable of producing a dimensionally size appropriate layer from an ingot by sawing which appears to be capable of being used as a cladding layer."

There is no factual basis in Hu to support these statements. Hu shows and describes cogging steel ingot using a metal band saw. Hu, however, does not teach or suggest any dimensions for the steel that is cut. Therefore, Hu is without explicit support for sawing to produce a layer having a specified thickness suitable for use as a cladding layer. Hu does not provide implicit support either because Hu relates to cogging, and not cladding. Indeed, because Hu discloses cogging, one skilled in the art would recognize that the layer cut in Hu would be substantially thicker than any layer suitable for use as a cladding layer, as claimed by Appellant or as required by Gaul.

Cogging is a metallurgical process involving successive deformation of a bar along its length by open-die forging. Cogging provides a preliminary reduction of steel ingots so that they can be handled by finishing mills. Hu teaches to replace cogging of a steel ingot by sawing the ingot with a longitudinal band saw. Hu does not have the object to produce sheets or cladding layers from an ingot. Instead, Hu aims to reduce the thickness of an ingot to avoid cogging rolls.

Claims 6 and 14 require that the cladding layer have a specified thickness suitable for use as a cladding layer. This claim limitation is definite since it provides a structural limitation to the cladding layer being formed, as specific values for the thickness are recited in claims 8 and 16 and are disclosed in paragraph 12.

Gaul discloses that the liner stock has a thickness of 0.456 inches (11.58 mm). See, e.g., column, 4, lines 42-45 of Gaul).

Appellant recites in claims 8 and 16 and discloses in paragraph 12 a range of 2-100 mm.

Hu is silent regarding dimensions, and one skilled in the art would not recognize that a slab of steel being cut from ingot to avoid cogging would have dimensions in the 2-100 mm range. As stated above, one skilled in the art would expect the layer to be substantially thicker, as it is intended for cogging steel.

Therefore, the Examiner's statements that "Hu appears to have dimensions capable of use as a cladding layer" and "[t]he teachings of Hu are clearly capable of producing a dimensionally size appropriate layer" have no objective, factual basis because dimensions are not explicitly disclosed by Hu and because there is nothing in the teaching of Hu to infer the dimensions. Accordingly, the combination of Gaul and Hu fails to teach each and every limitation of claims 6 and 14.

#### **Response to statements on pages 6 and 7 regarding hindsight**

The Examiner asserts that he is using only knowledge within the level of ordinary skill. However, on page 7, when discussing hindsight, the Examiner has limited the

scope of the knowledge within the level of ordinary skill to sawing to produce a layer used in a manufacturing process. Appellant agrees that using a band saw to cut metal is not new. However, the Examiner is relying on additional knowledge to provide motivation to combine the references. In particular, the knowledge that the Examiner relies on includes sawing from an ingot a cladding layer having a specified thickness suitable for use as a cladding layer.

As stated in the Examiner's Answer on page 5, the Examiner relies on Hu because "Hu ... teaches a layer of material similar in dimension to the aluminum cladding layer of Gaul being produced by sawing a first ingot in a longitudinal first direction," "Hu appears to have dimensions capable of use as a cladding layer," and "[t]he teachings of Hu are clearly capable of producing a dimensionally size appropriate layer from an ingot by sawing which appears to be capable of being used as a cladding layer."

Sawing a layer of a specified thickness suitable for use as a cladding layer from an ingot, which is the knowledge gleaned by the Examiner from the Appellant's disclosure, is not within the level of knowledge of one skilled in the art. Moreover, Hu teaches away from the combination of Gaul and Hu since Hu teaches cogging.

Cogging, which as explained on page 11 of the Appeal Brief, is a material different manufacturing process from cladding. Furthermore, there is no teaching that the layer of Hu is suitable as a cladding layer or for a composite material. Because the layers formed by Hu are sufficient for cogging, but not sufficient for cladding, the Examiner is using impermissible hindsight in making the combination of Hu and Gaul. That is, the Examiner relies on Appellant's teaching that a cladding layer of suitable dimensions can

be formed by sawing, where Hu is silent about not only cladding layers, but also the dimensions of the layer cut from the steel ingot.

Appellant respectfully submits that the rejection under 35 U.S.C. 103(a) is improper because there is no suggestion or motivation to combine the teachings of Gaul and Hu.



**IV. CONCLUSION**

For the reasons stated above and for the reasons stated in Appellant's Brief on Appeal dated December 9, 2008, which are maintained in full, it is requested that the rejection of all pending claims under 35 U.S.C. 103(a) be reversed.

Respectfully submitted,

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